AMENDMENTS TO THE CLAIMS

1-13. (Cancelled)

14. (New) A method for evaluating a capacity of secondary batteries of a same group produced under same conditions, the method comprising:

(a) partially charging the secondary batteries to have a charge capacity of at least 60% with a voltage less than a full charge voltage;

(b) measuring an impedance spectrum for the batteries partially charged;

(c) determining specific internal resistance components from an equivalent circuit model fitted from the measured impedance spectrum to perform a numerical operation; and

(d) comparing the numerical operation value of the resistance components with an initial discharge capacity graph of the batteries to evaluate an initial discharge capacity of unknown batteries of the same group.

15. (New) The method as claimed in claim 14, wherein the impedance spectrum is measured in a frequency range of 10 mHz to 10 kHz.

16. (New) The method as claimed in claim 14, wherein the equivalent circuit model used for simulation of the impedance spectrum comprises model parameters of nonlinear resistors, nonlinear capacitors, and nonlinear transfer lines.

17. (New) The method as claimed in claim 16, wherein the internal resistance components obtained from the equivalent circuit model include resistance components and charge transfer resistance components related to one of a degradation of an electrolyte, a separator, and a current collector.

18. (New) The method as claimed in claim 14, wherein the discharge capacity graph is a capacity correlation graph obtained from a relationship equation with the initial discharge capacity determined after a discharge performed with a discharge rate of 1.0C.

19. (New) The method as claimed in claim 14, wherein the secondary battery includes at least one of a lithium ion battery, a lithium polymer battery, a Ni-Cd battery, and a NiMH battery.

20. (New) A method for evaluating a capacity of secondary batteries of a same group produced under same conditions, the method comprising:

(a) partially discharging the secondary batteries to a discharge capacity of less than 10% from a voltage less than the full charge voltage;

(b) measuring an impedance spectrum for the batteries partially discharged;

(c) determining specific internal resistance components from an equivalent circuit model fitted from the measured impedance spectrum to perform a numerical operation; and

(d) comparing the numerical operation value of the resistance components with an initial discharge capacity graph of the batteries to evaluate an initial discharge capacity of unknown batteries of the same group.

21. (New) The method as claimed in claim 20, wherein the impedance spectrum is measured in a frequency range of 10 mHz to 10 kHz.

22. (New) The method as claimed in claim 20, wherein the equivalent circuit model used for simulation of the impedance spectrum comprises model parameters of nonlinear resistors, nonlinear capacitors, and nonlinear transfer lines.

23. (New) The method as claimed in claim 22, wherein the internal resistance components obtained from the equivalent circuit model include resistance components and charge transfer resistance components related to one of a degradation of an electrolyte, a separator, and a current collector.

24. (New) The method as claimed in claim 20, wherein the discharge capacity graph is a capacity correlation graph obtained from a relationship equation with the initial discharge capacity determined after a discharge performed with a discharge rate of 1.0C.

25. (New) The method as claimed in claim 20, wherein the secondary battery includes at least one of a lithium ion battery, a lithium polymer battery, a Ni-Cd battery, and a NiMH battery.